

## RADIO CHANNEL CONTROL METHOD AND SYSTEM

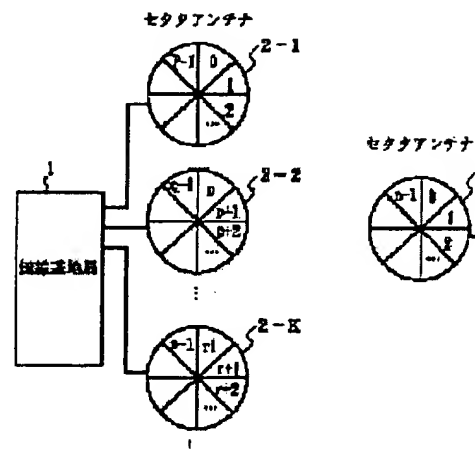
Ref. 3

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## Abstract of JP10322267

**PROBLEM TO BE SOLVED:** To attain quick communication by setting the number of an antenna element to a specific function relation to an identification number of an access channel and allowing a radio terminal making communication with a radio base station to make transmission/reception according to the identification number thereby simplifying the configuration of the radio terminal and communication control.

**SOLUTION:** A radio base station 1 makes transmission/reception of an access channel of each frame from sector antennas 2-1-2-k to a radio terminal and selects a sector for each frame. That is, any of sectors  $0 \sim m-1$  is sequentially switched for each frame over each branch of pluralities of sectors antennas. In this case, a sector number (s) is set to a specific function relation to the identification number (a) for each access channel. That is, let the identification number for the access channel be (a) and a sector number of the sector antenna be (s), then a relation of  $s=f(a)$  is selected (f is a specific function). A radio terminal 3 making communication with the radio base station 1 makes transmission reception according to the identification number (a) without notifying the sector number (s).



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Inventors: Y. Nakayama et al

Title of the Invention:

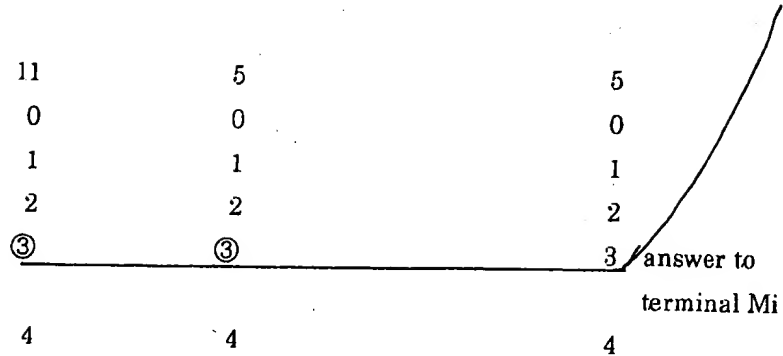
The present invention relates to a control in a wireless communication system (or Time Division Multiple Access) in which signals are transmitted to and received from a selected terminal station (3 in Fig.1) over an allotted access channel, the transmission and reception being effected each frame for each sector antenna (2-1; 2-2;...2-K in Fig.1) of the base station (1 in Fig.1) by switching from sector to sector antenna for each frame. What is aimed at by the present invention is to let the terminal station establish synchronization with the base station irrespective of what kind of antenna is used at the base station.

The antenna sector number "s" is determined to have a particular functional relation with the identification number "a" of the access channel ( $s = f(a)$ ), thereby allowing the terminal station to send to and receive from the base station only in respect of the identification number "a" regardless of the sector number "s".

Fig.8

	access channel number	access channel down-transmission number	access channel up-transmission number
↑ one frame ↓	0	0	0
	1	1	1
	2	2	2
	③	3	③
	4	4	4
	5	5	5
	6	0	0
	7	1	1
	8	2	2
	⑨	③	3
	10	4	4

no answer



As regards detection of the access channel: subsequent to the detection of the unique word the communication quality is determined, and then the detection of the access channel is effected, provided that the communication quality is above a predetermined threshold. The communication quality can be determined in respect of:

1. the level at which signals are received;
2. the number of corrected bits;
3. CRC (Cyclic Redundancy Check) error detection; and
4. the number of pseudo-error pulses.

The pseudo-error pulse is defined as a pulse which is produced in case of an increased distance found from the decision point in the signal domain in consideration of the phase information prior to the code decision in the digital demodulator even though no bit error actually appears